AMENDMENT(S) TO THE CLAIMS

Please amend claims 1, 9 and 10, and cancel claims 8 and 12-23 as follows. This listing of claims will replace all prior versions and listings of claims in this application:

Listing of Claims:

1. (Currently amended) A dehydrogenation catalyst which comprises:

an organometallic pincer complex bonded to an inorganic oxide support, said organometallic pincer complex possessing catalytic activity for the dehydrogenation of alkyl groups, wherein the pincer complex is bonded to the inorganic oxide support by means of a bridging group.

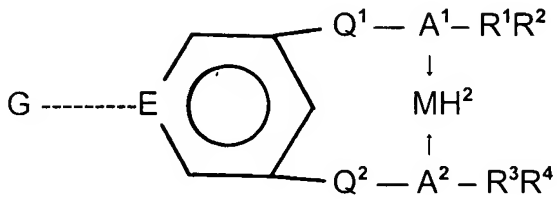
2. (Original) The dehydrogenation catalyst of claim 1 wherein the pincer complex includes at least one element selected from Group VIII or Group IB of the Periodic Table of the elements, and at least one element selected from Group VA of the Periodic Table of the elements in each of first and second molecular arm portions, the Group VIII or Group IB element being bonded to each of the Group VA elements.

3. (Original) The dehydrogenation catalyst of claim 2 wherein the first and second molecular arm portions are each bonded to a molecular core portion, the Group VIII or Group IB element being bonded directly or indirectly to the molecular core portion.

4. (Original) The dehydrogenation catalyst of claim 3 wherein the molecular core portion comprises an aromatic ring.

5. (Original) The dehydrogenation catalyst of claim 4 wherein the first molecular arm portion comprises a Q^1-A^1-R^1R^2 group and the second molecular arm portion comprises a Q^2-A^2-R^3R^4 group, wherein A^1 and A^2 are the same or different and are each independently selected from phosphorus, nitrogen, arsenic and antimony, Q^1 and Q^2 are the same or different and are each independently selected from $-CH_2-$, $-CH_2CH_2-$, and $-CH=CH-$, and R^1 R^2, R^3 and R^4 are the same or different and are each independently selected from alkyl, alkenyl, cycloalkyl and aryl having from 1 to 10 carbon atoms, or R^1 and R^2 together and/or $R^3$and R^4 together form a ring structure having from about 4 to about 10 carbon atoms.

6. (Original) The dehydrogenation catalyst of claim 1 wherein the pincer complex has the formula:



wherein A^1 and A^2 can be the same or different and are each independently phosphorus, nitrogen, arsenic or antimony, E is carbon, silicon or germanium, G is optional and is selected from the

group consisting of –OH, $–NH_2$, –SH, $–OR^5$, $–R^5C{=}C$, $–R^6OH$, $–R^6NH_2$, $–R^6COOH$, or $–R^6COOR^7$ wherein R^5 is an alkyl group having from 1 to 10 carbon atoms, $R^6$is a substituted alkyl group with up to 5 carbon atoms, and R^7 is an alkyl group having from about 1 to 10 carbon atoms, M is a Group VIII or Group IB metal, Q^1 and Q^2 can be the same or different and are each independently $–CH_2–$, $–CH_2CH_2–$, and –CH=CH–, and R^1 R^2, R^3 and R^4 can be the same or different and are each independently selected from alkyl, alkenyl, cycloalkyl and aryl having from 1 to 10 carbon atoms, or R^1 and R^2 together and/or $R^3$and R^4 together form a ring structure having from about 4 to about 10 carbon atoms.

7. (Original) The dehydrogenation catalyst of claim 1 wherein the pincer complex has the formula $IrH_2\{C_6H_2G(CH_2PR_2)_2\text{-}2,6\}$ wherein R is a tert-butyl or isopropyl group and G is -OH, $-NH_2$, -SH, $-OR^5$, $-R^5C{=}C$, $-R^6OH$, $-R^6NH_2$, $-R^6COOH$, or $-R^6COOR^7$ wherein R^5 is an alkyl group having from 1 to 10 carbon atoms, $R^6$is a substituted alkyl group with up to 5 carbon atoms, and R^7 is an alkyl group having from about 1 to 10 carbon atoms.

8. (Cancelled)

9. (Currently amended) The dehydrogenation catalyst of claim [[8]] 1 wherein the bridging group is derived from compounds containing a triethoxysilyl group and isocyanate group, or compounds containing a triethoxysilyl group and a halogenated alkane.

10. (Currently amended) The dehydrogenation catalyst of claim [[8]] 1 wherein the inorganic oxide support is a mesoporous inorganic oxide.

11. (Original) The dehydrogenation catalyst of claim 1 wherein the inorganic oxide support is a porous inorganic oxide having at least 97 volume percent mesopores based on micropores and mesopores of the inorganic oxide, and having an X-ray diffraction peak at between 0.3 and 3 degree in 2θ, having surface area of 400 - 1100 m^2/g, and having total pore volume of about 0.3-2.2 cm^3/g, said mesopores being randomly interconnected.

Claims 12-23, (Cancelled).